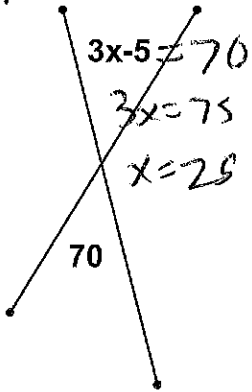


Geometry 201  
Problems with Angles

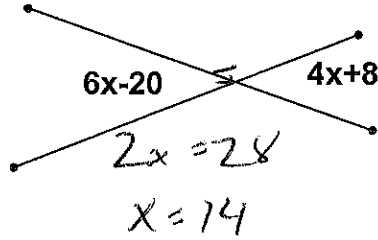
Name Key

Solve for x and y.

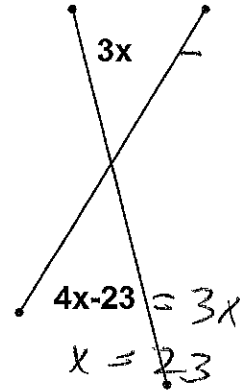
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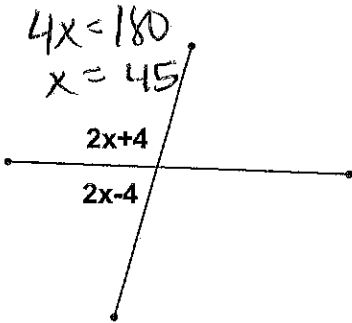
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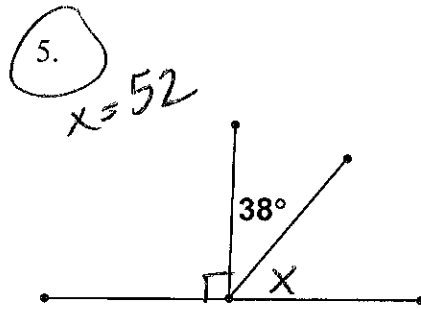
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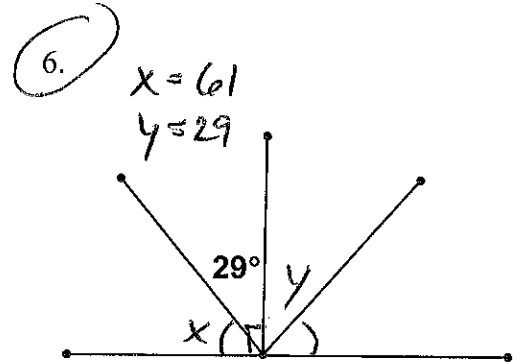
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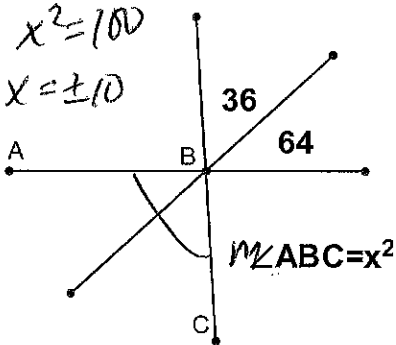
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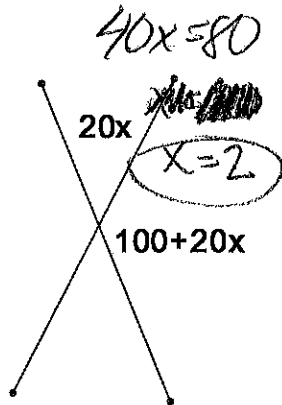
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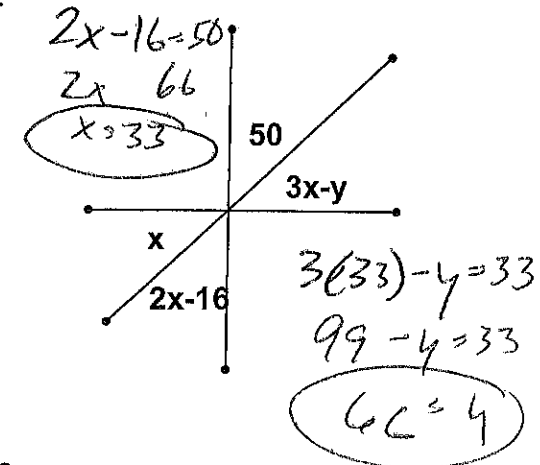
\* 7.



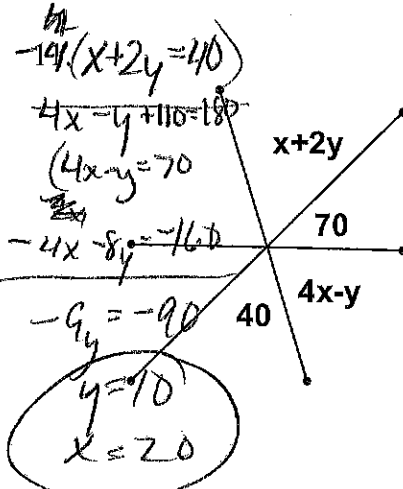
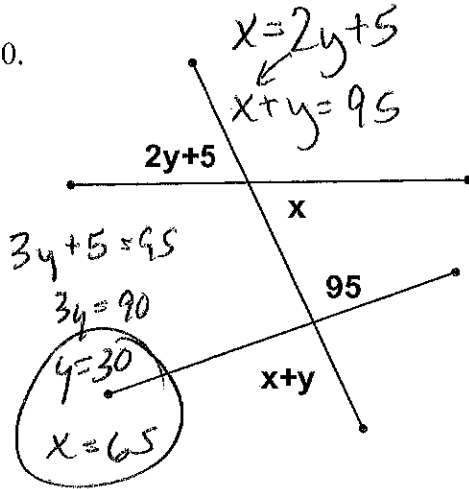
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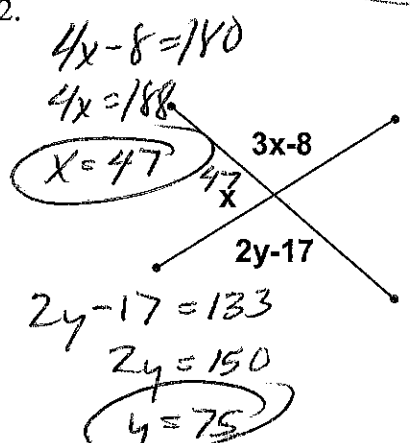
9.



10.



12.



In the diagram,  $\overrightarrow{OT}$  bisects  $\angle SOU$ ,  $m\angle UOV = 35$ , and  $m\angle YOW = 120$ . Find the measure of each angle.

13.  $m\angle ZOY$  35

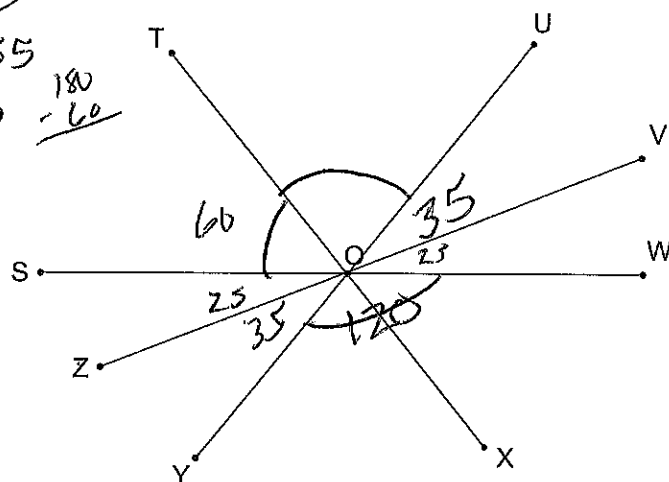
15.  $m\angle VOW$  25

17.  $m\angle TOU$  60

14.  $m\angle ZOW$  155

16.  $m\angle SOU$  120

18.  $m\angle ZOT$  85



If  $\angle A$  and  $\angle B$  are supplementary, find the value of  $x$  and the measure of the angles.

19.  $m\angle A = 2x$ ,  $m\angle B = x - 15$

$$3x - 15 = 180$$

$$3x = 195$$

$$x = 65$$

20.  $m\angle A = x + 16$ ,  $m\angle B = 2x - 16$

$$3x = 180$$

$$x = 60$$

If  $\angle C$  and  $\angle D$  are complementary, find the value of  $y$  and the measure of the angles.

21.  $m\angle C = 3y + 5$ ,  $m\angle D = 2y$

$$5y + 5 = 90$$

$$5y = 85$$

$$y = 17$$

22.  $m\angle C = y - 8$ ,  $m\angle D = 3y + 2$

$$4y - 6 = 90$$

$$4y = 96$$

$$y = 24$$

Use the given information to write an equation. Solve the equation to find the measures of the two angles described.

23. A supplement of an angle is twice as large as the angle.

$$x + y = 180$$

$$y = 2x$$

$$3x = 180$$

$$x = 60$$

(60°, 120°)

24. A complement of an angle is five times as large as the angle.

$$x + y = 90$$

$$y = 5x$$

$$6x = 90$$

$$x = 15$$

(15°, 75°)

25. The measure of one of two complementary angles is six less than twice the measure of the other.

$$x + y = 90$$

$$y = 2x - 6$$

$$3x = 96$$

$$x = 32$$

(32°, 58°)

26. The difference between the measures of two supplementary angles is 42.

$$x + y = 180$$

$$x - y = 42$$

$$2x = 222$$

$$x = 111$$

$$y = 69$$

27. A supplement of an angle is six times as large as a complement of the angle.

$$x + y = 180$$

$$x + z = 90$$

$$y = 6z$$

$$180 - x = 6(90 - x)$$

$$5x = 360$$

$$x = 72$$

Any 72  
supp 108°  
comp 18°

28. Three times the measure of a supplement of an angle is eight times the measure of a complement of the angle.

$$x + y = 180$$

$$x + z = 90$$

$$3y = 8z$$

$$3(180 - x) = 8(90 - x)$$

$$540 - 3x = 720 - 8x$$

$$5x = 180$$

$$x = 36$$

supp = 144  
comp = 54